

Romero-Martín, M.R.; Gelpi Fleta, P.; Mateu Serra, M. y Lavega Burgués, P. (2017). Influencia de las prácticas motrices sobre el estado emocional de estudiantes universitarios / Influence of Motor Practices on University Students' Emotional State. Revista Internacional de Medicina y Ciencias de la Actividad Física y el Deporte vol. 17 (67) pp. 449-466.
[Http://cdeporte.rediris.es/revista/revista67/artefectos832.htm](http://cdeporte.rediris.es/revista/revista67/artefectos832.htm)
DOI: <https://doi.org/10.15366/rimcafd2017.67.004>

ORIGINAL

INFLUENCE OF MOTOR PRACTICES ON UNIVERSITY STUDENTS' EMOTIONAL STATE

INFLUENCIA DE LAS PRÁCTICAS MOTRICES SOBRE EL ESTADO EMOCIONAL DE ESTUDIANTES UNIVERSITARIOS

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ACKNOWLEDGEMENTS

This study is part of the project called "Gender perspective in the emotions derived from psychomotor and cooperative sports games" financed by the Ministry of Economy and Competitiveness. Government of Spain. State Secretariat for Research, Development and Innovation in the 6th National Plan for Scientific Research, Development and Technological Innovation Plan: R+D+I Projects. (Ref. DEP2010-21626-C03-01).

Código UNESCO / UNESCO code: 5899 Otras especialidades pedagógicas (Educación Física y Deporte) / Other pedagogical specialities (Physical Education and Sport).

Clasificación Consejo de Europa / Council of Europe classification: 4. Educación Física y deporte comparado / Physical Education and sport compared

Recibido 29 de enero de 2015 **Received** January 29, 2015

Aceptado 15 de septiembre de 2015 **Accepted** September 15, 2015

ABSTRACT

The emotional experience is a key aspect when promoting student's well-being from the physical education. This study analyzed the effects of three kinds of motor practices without teammates or adversaries (games, body expression and introjections) on women and men's emotional state. 358 students took part in this study (98 women, 27.37%, and 260 men, 72.63%) from four different Spanish universities. After each activity students filled out a questionnaire to validate the Games and Emotions Scale (GES), indicating the experienced intensity in positive, negative and ambiguous emotions. Data were analyzed by generalized estimating equations. It was confirmed that the three kinds of practices work as specific subdomains in the emotional experience. Men showed more intense emotions than women ($p < .001$), although both genders had a similar emotional behavior in motor expression and motor introjections practices. Women registered lower values in motor games.

KEY WORDS. Physical Activity. Emotions. Gender. Physical Education. Motor Games. Motor Expression. Motor Introjection.

RESUMEN

La vivencia emocional es un aspecto clave para promover el bienestar del alumnado desde la educación física. Este trabajo examinó los efectos de tres tipos de prácticas psicomotrices sin presencia de compañeros y de adversarios (juegos, expresión e introyección) sobre el estado emocional de mujeres y hombres. Participaron 358 estudiantes (98 mujeres, 27,37% y 260 hombres, 72,63%) de 4 universidades españolas. Tras cada actividad los estudiantes cumplimentaron el cuestionario validado de juegos y emociones (GES), indicando la intensidad experimentada en emociones positivas, negativas y ambiguas. Los datos se analizaron mediante ecuaciones de estimación generalizadas. Se confirmó que los tres tipos de prácticas funcionan como subdominios específicos en la vivencia emocional. Los hombres expresaron emociones más intensas ($p < ,001$) que las mujeres, aunque ambos sexos tuvieron un comportamiento emocional similar en la expresión e introyección. Las mujeres registraron valores inferiores en los juegos motores.

PALABRAS CLAVE. Actividad Física. Emociones. Género. Educación Física. Juegos motores. Expresión Corporal. Prácticas de Introyección.

INTRODUCTION

The study of the emotions, even if it has been a traditional object of study, has acquired in the last years a special relevance in part due to Gardner's study (1995) about multiples intelligences, and Goleman's study about emotional intelligence, term introduced by Salovey & Mayer in 1990 (De Andrés, 2005; Fernández-Berrocal & Extremera, 2009), which has had a wide social repercussion (De Andrés, 2005). However, this is still a field which needs scientific consolidation, since there is, for example, a lack of validated tools so far (Pena & Repetto, 2008) and many other studies that have been proliferated are informative or of a low scientific value (Extremera & Fernández-Berrocal, 2003). The interest moved to the educational field (De Andrés, 2005) included the Physical Education (PE) (e.g., Durán, Lavega, Salas, Tamarit & Invernó, 2015; Ferrer, 2013; Sáez de Ocáriz & Lavega, 2015; Yuste, Alonso, Gea & Ureña, 2014), subject in which, due to its idiosyncrasy, students have the chance to show in depth a rich and varied emotional world. The PE provides the student an endless number of motor experiences. Each game, either expressive or introjection motor task, have an internal logic or pattern of organization (Parlebas, 2001) which provoke intense emotional experiences amongst the students. For their interpretation we start from the description of the term emotion as "complex state of the organism characterized by an excitement or distress which predisposes to an organized response according to the subjective evaluation that each person makes from the meaning of the event (motor task in the PE) which has provoked it" (Lavega, Filella, Lagardera, Mateu & Ochoa, 2013, p. 348). Coherently, a careful education must bear in mind this particular way of activating emotions, especially if, as López Fernández-Cao (2008) indicates, "education in emotion and sensitivity modifies not only the character but the way of understanding the world and the cognitive ability to deal with it" (p. 224). In addition, previous studies about emotional experiences which provoke motor practices (e.g., Gelpi, Romero-Martín, Mateu, Rovira & Lavega, 2014; Lagardera & Lavega, 2011; Lavega, Aràujo & Jaqueira, 2013; Lavega, March & Filella, 2013; Rovira, López-Ros, Lagardera, Lavega & March, 2014; Sáez de Ocáriz, Lavega, Mateu & Rovira, 2014; Torrents & Mateu, 2015) have shown that in a PE session, the emotional behavior depends on the internal logic of the motor practice used, as well as other variables such as gender.

Hallmarks of motor practices

PE, as any educational discipline, is configured as a debtor regarding their historical path in which a multitude of influences have left sediment and marked its multidimensional character; this explains why today many practices from different fields, which worked together or successively in the history of this discipline, are also reflected in it (Zagalaz, 2001). To understand this phenomenon we look at the Parlebas' Motor Action theory (2001) that considers that each motor practice has "an internal logic that triggers a set of internal relationships with the other players, with the space, with the material and with the time, which will originate a series of praxical consequences on the person who acts" (Lavega, 2010, p. 3). The concept of internal logic takes a crucial role when it constitutes "... the system of the relevant features of a motor situation

and of the consequences that entails for the realization of the corresponding motor action" (Parlebas, 2001, p. 302). Considering this, motor practices are grouped into domains of action (Larraz, 2004) that share common features: (1) psychomotor (without motor interaction); (2) interindividual opposition; (3) cooperation (several subjects come together with a common goal); (4) cooperation and opposition; (5) actions in a physical environment with uncertainty; (6) shares with artistic and / or expressive intentions. Therefore, all motor situations are located in one of these domains of action, although any discipline of physical activity may contain situations included in different domains.

Within this framework motor games in terms of internal logic are defined as a recreational activity of uncertainty, under a sociocultural context (Navarro, 2002). Lavega & Navarro (2015), referring in particular to the traditional game, adds that it is attached to a long cultural tradition, which has not been sanctioned by social institutions, the rule system admits many variants according to the will of the participants and it does not depend on official organisms. About this motor practice, Hromek & Roffey (2009) conclude that games are an effective way of social development and emotional learning amongst young people. On the other hand, Romero-Martin (2001) defines motor expression practices as those pursuing expressive, communicative and / or aesthetic purposes and whose actions are derived from combining the motor possibilities offered by the body as aesthetic construction, qualities of movement and emotions. Torrents, Mateu Planas & Dinusôva (2011) describes them from the distance between the pragmatism of physical activity focused on the achievement of specific skills. Torrents & Castañer (2009) are supported on a type of motor based on feelings, adaptation to the immediate environment and creativity. Mateu & Coelho (2011) state that motor practices are characterized by an expressive and communicative intentionality and that they cover a wide range of activities from spontaneity to the maximum encryption, along with Romero-Martin (2001) when she classifies them in practices of low, medium and high technification. Another type of motor situations encountered in the wide range of contents of PE are the so-called motor introjection practices, in which, "under an apparent immobility, body perception is developed through the use of imagination and small movements which allow maximum attention to every change that occurs in the organism" (Torrents et al., 2011, p. 405). It would be mindfulness motor situations "which aims to encourage self-awareness, body care and well-being through conscious breathing exercises, joint release, posture, stretching or mindfulness amongst others" (Rovira, López-Ros, Lagardera et al., 2014, p. 107), that is, practices that require internalization and personal introspection.

We have described three types of motor practices with differential features that induce us to think about various emotional implications. Parlebas (2001) suggested it when referring to pedagogical elections, he said that the main types of motor situations should calmly analyze, expose the logic of its functioning and discover their influence on the motor behavior of participants. Our study focuses on these three types of motor practices but only in those activities with psychomotor character, motor action domain (Larraz, 2004; Parlebas, 2001) in which Lavega, Araújo & Jaqueira (2013) found that it was

activated lower emotional intensity than in activities with colleagues and/or opponents. Other studies conclude that there are differential behavior at the intensity of emotions expressed by subjects like the one of Mandigo, Holt, Anderson & Shepard (2008), whose study with 759 Canadian students of 3rd. to 7th grade showed differences in motivational responses from four different categories of games; or the study of Lavega, Filella et al. (2013) in which competitive games were the ones that showed the most intense values of positive emotions.

Types of emotions

Based on the concept of emotion according to Palmero, Guerrero, Gómez & Carpi (2006) as an adaptive process that is part of affective processes, talking about emotions in generic has limited value since, for example, emotions are both anger and joy; however, they are triggered by different life experiences. Along the lines of this issue, Heinemann (1999) suggested that a positive emotion does not need to accomplish positive functions and viceversa, since you can learn both from pleasurable situations and adversities which test us.

Bisquerra (2000) organizes thirteen emotions into three categories: positive (joy, humor, love and happiness), negative (fear, anxiety, anger, sadness, rejection and shame) and ambiguous (surprise, hope and compassion); it is a two-dimensional model of understanding affective states (Latinjak, Lopez-Ros & Font-Lladó, 2014). Vera (2006) finds that less attention has been paid to positive emotions in scientific research compared to the negative ones; perhaps it is due to "the natural tendency to study what threatens people's welfare" (Vecina, 2006). Several studies like the one of Torrents et al. (2011) are based on this order for the analysis of the emotional involvements of the motor practices; in their study with 80 students they showed that from the practice of motor expression situations students expressed eminently positive emotions. In the study of Lavega, Araujo et al. (2013) on motor and emotional skills in college students, it was shown that the intensity manifested in the three types of emotions (positive, negative and ambiguous) is related to the type of motor practices performed.

Gender

In the study of gender, as an important variable to understand the emotional experience of subjects in the different motor practices, we note that in the literature they are easily intertwined with the concept of gender stereotypes. Rodriguez Mena (2003) concludes that the school is one of the main mechanisms of stereotypes transmission and it refers to games as an influential way of developing identities where powerful relationships, attitudes and behaviors of our society are reproduced. For Garcia-Meseguer (1998), the male stereotype is identified with emotional stability while for the female one there would be associated, amongst others, excitement and natural feelings and high affectivity. In relation to physical activity, Alvariñas, Fernández & López (2009) suggest that the female gender is identified with physical activities of rhythm and expression. On the other hand, Blández, Fernández-García & Sierra (2007) consider that we are witnessing closeness between tastes regarding the kind of

sports practices between men and women due to the closeness of women to those practices traditionally for men.

Many studies have studied in depth differential aspects between men and women regarding their emotional behavior, and, although several authors agree that they are not conclusive, differences were found in certain factors. Alcalá, Camacho, Giner, Giner & Ibáñez (2006) claim that there is a generalized opinion about the differences in affection according to the gender, although in their literature review they found no conclusive results but they even observed conflicting results. Along the same lines, Caballero (2004) states that, despite the popular belief, recent studies show no significant differences between men and women in emotional intelligence quotient although they point out some strong and weak points with regard to some specific factors, such as emotional awareness, perception, understanding and expression of emotions, regarding women; on the other hand, men stand out in impulse control skills, stress tolerance, personal security, independence and optimism; in any case, they are not conclusive results. Simon & Nath (2004) in their study could not fully endorse cultural beliefs about gender according to which there are differences between subjective feelings in general between men and women; however they did find differences in emission frequency of positive and negative emotions: men express certain positive emotions, as calm and enthusiasm, more frequently than women and meanwhile women were more likely to express negative emotions of anxiety and sadness. In the study of Alcalá et al.' study (2006), with 120 students from university, high school and adults' education, in the basic scale no significant differences were obtained, but there were regarding cheerful, happy, pleased and glad items in which women's values were higher. In another age range, Etxebarria, Apodaca, Eceiza, Fuentes & Ortiz (2003), with 257 students from elementary school, found no differences in gender regarding emotional intensity. Grossman & Wood (1993) evaluated the emotional intensity by myograph and obtained that women gave higher intensity in the expression of their emotions; women also expressed emotions of happiness, sadness and fear more frequently, while men expressed more anger emotions. Otero, Martin, Leon & Vicente (2009), in their study with 344 students from secondary school, explained the heterogeneity in measures from the group of girls during the development of the emotional intelligence skills, based on the greater emotional capacity of women evidenced by numerous studies. However, Pena & Repetto (2008) on their behalf, suggest that in order to avoid the effects of regression to the mean, studies differentiated by gender should be done.

Under this theoretical framework, the main objective of this study was to analyze the effects of three types of psychomotor practices, i.e. without motor interaction (motor games, motor expression & motor introjection), according to the state of positive, negative and ambiguous emotions of women and men.

METHODOLOGY

Participants

This study was conducted with 358 students from four Spanish universities (5 headquarters), age range 18-41 years (mean from 19.99 to 27.94 depending on the head quarter) (Table 1). Participants (women = 98; 27.37% and men = 260; 72.63%) were freshmen from Physical Activity and Sport Sciences or Teaching Physical Education who voluntarily participated in this formative experience integrated into a subject from each headquarter where these studies are taught. This research was approved by the ethics committee of the University of Lleida.

Table 1. Characteristics of participants in each of the headquarters

Headquarters	Total	Women	%	Men	%	Age	Mean	TD
						Range		
Barcelona	91	22	27.20	69	72.80	18-27	20.68	3.97
Girona	91	18	19.80	73	80.20	18-32	19.99	2.78
Huesca	52	14	26.90	38	73.10	18-27	21.40	4.81
Lleida	94	19	20.20	76	79.80	18-41	20.23	3.14
Zaragoza	29	25	86.20	4	13.80	20-39	27.94	6.95
Total	358	98	27.37	260	72.63	18-41	19.60	4.13

Table 2. Distribution of participants according to the type of practice

Type of practice	Participants	Women	Men
Motor expression	172	61	111
Motor games	94	18	73
Motor introjection	91	19	76
Total	358	98	260

Tool

For the identification of emotional intensity the Games and Emotion Scale (GES) was used; it was developed and validated by Lavega, March et al. (2013). This scale consisted of thirteen items, one per each emotion, organized into positive, negative and ambiguous emotions (Bisquerra, 2000); (4 positive emotions: joy, humor, love and happiness; 6 negative emotions: anger, rejection, fear, anxiety, shame and sadness; 3 ambiguous emotions: compassion, surprise and hope), scored with a Likert scale from 0 to 10; 0 meant they had not felt that emotion and 10 they had experienced it with the maximum intensity. The reliability of the scale recorded a behaviour similar to the Cronbach's alpha coefficient original scale ($N = 358$; $\alpha = 0.91$) with similar values for each type of emotion: positive ($\alpha = 0.92$), negative ($\alpha = 0.87$) and ambiguous ($\alpha = 0.92$).

Procedure

It was imparted by the same research team, specialists in games, expression or introjection, and trained in the field of emotional education (psychologist, master in emotional intelligence). Participating students performed a previous training consisting of a theoretical session of an hour and a half in order to learn to recognize the thirteen emotions and another practical session of an hour and a half to learn about the scale and experiment the procedure, given by members of the research team. The program consisted of two sessions of an hour and a half taught by the teachers of the subjects where these activities were included and members of the research team, previously trained. Each student performed a total of eleven practical tasks of a subdomain (expression, games or introjection) of psychomotor character in all cases. After each activity, students completed one GES questionnaire scoring the intensity level from 0 to 10 that they had experienced in each of the thirteen emotions outlined in the document. The answers were then transcribed to the virtual platform Moodle and exported to a spreadsheet of the software Excel for Windows.

Variables

Taking into account the above objectives and the theoretical foundations of reference, the following dimensions and variables were identified: the dependent variable was the intensity of positive, negative and ambiguous emotions and independent variables were: (1) the type of practice (motor games, motor expression, motor introjection practices), (2) and the gender of the participants.

Analysis and processing of data

The Kolmogorov-Smirnov test showed that the comparison between the dependent variable (emotional intensity) and several independent variables, followed a (not normal) very asymmetric distribution. In addition, the fact of having correlated data (because the same subject provided many values) a model based on generalized estimating equations (GEE) was chosen. Distributions from the Gaussian family were used, with an exchangeable correlation structure. Multiple post-hoc comparisons were applied to all factors of more than two categories, using the statistical software SPSS v.19.0. The model considered a within-subjects factor: the type of emotion (positive, negative and ambiguous) and two between-subjects factors: (1) Type of practice: games, expression and introjection; and (2) Gender: male or female.

The total numerical data ($N = 51194$ data) analyzed was obtained by multiplying the number of participants (358), by the number of games (11) and the number of data of each experienced activity (13, one per emotion).

RESULTS

The following Table 3 shows an overview of the study to provide the significance of emotional intensity (dependent variable) in relation to the studied independent variables.

Table 3. General results

Variables	Wald Chi-square test	Gl	Sig.
(Intersection)	1604.689	1	< 0.001
Type of emotion	1266.434	2	< 0.001
Gender	4.301	1	0.038
Type of practice	209.23	2	< 0.001
Type of emotion * gender	8.411	2	0.015
Type of emotion * type of practice	283.317	4	< 0.001
Gender * type of practice	22.912	2	< 0.001

Type of emotion. In the analysis of the independent variables, we see in Table 3 significant differences between the three types of emotions ($p < 0.001$) were found. We observe in Table 4 that positive emotions got more intense values ($M = 3.21$, $SD = 0.08$) than ambiguous emotions ($M = 1.47$, $SD = 0.06$; $p < 0.001$) and negative emotions ($M = 0.55$, $SD = 0.06$; $p < 0.001$).

Table 4. Values according to the type of emotion

Type of emotion	Mean	Standard error	Wald 95% confidence interval	
			Lower	Upper
Positive	3.21	0.077	3.06	3.36
Negative	0.55	0.024	0.51	0.60
Ambiguous	1.47	0.056	1.36	1.58

Gender. Regarding the gender variable significant differences between women and men were found ($p = 0.38$, Table 3). In Table 5 we see that women obtained significantly lower values ($M = 1.66$, $SD = 0.07$) than men ($M = 1.83$, $SD = 0.05$; $p < 0.001$).

Table 5. Values regarding Gender

Gender	Mean	Stand. Error	Wald 95% confidence interval	
			Lower	Upper
Feminine	1.66	0.068	1.52	1.79
Masculine	1.83	0.053	1.73	1.94

Type on practice. In Table 3 we show that significant differences between the three types of motor practices used were found ($p < 0.001$). The motor situations of expression obtained the most intense values ($M = 2.29$, $SD = 0.07$), higher than the games, which triggered significantly lower values ($M =$

1.98, $SD = 0.08$; $p < 0.001$) and higher than the introjectives motor situations which recorded significantly lower values compared to those of the motor expression values ($M = 0.96$, $SD = 0.07$; $p < 0.001$) (Table 6).

Table 6. Type of practice

Type of practice	Mean	Stand. Error	Wald 95% confidence interval	
			Lower	Upper
Games	1.98	0.081	1.82	2.13
Expression	2.29	0.074	2.15	2.44
Introjection	0.96	0.064	0.84	1.09

Gender and type of emotion. When the interaction of gender and type of emotion variables was globally analyzed (positive, negative or ambiguous) significant differences ($p = 0.015$) were observed (Table 3). Regarding positive emotions there were no significant differences between genders, but within the negative ones men obtained higher values ($M = 0.68$) than women ($M = 0.43$, $SD = 0.05$; $p = < 0.001$). Also in the ambiguous ones men obtained higher means than women (women, $M = 1.32$, $SD = 0.12$; men $M = 1.61$; $SD = 0.08$; $p = 0.003$), ie, both negative and ambiguous emotions showed that men reported higher emotional intensity than women (Figure 1).

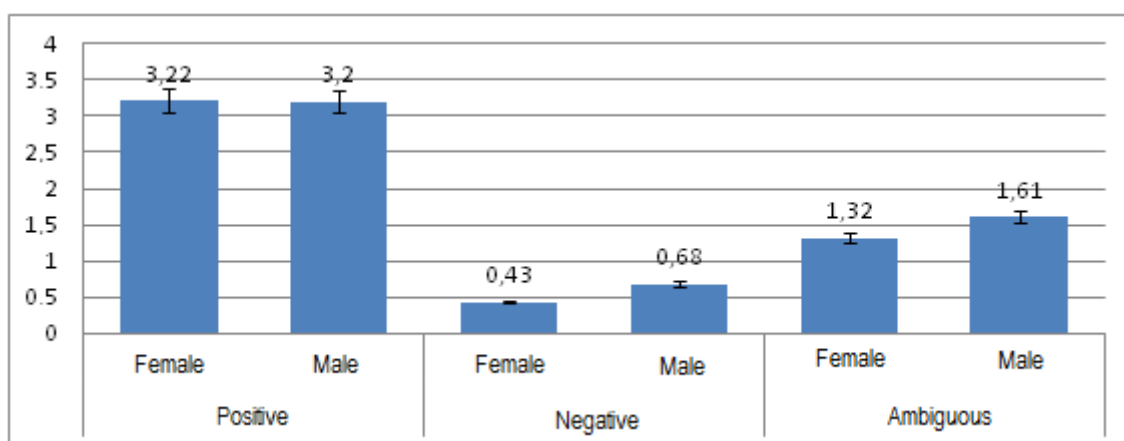


Figure 1. Interaction between type on emotion and gender

Gender-type of practice. Significant differences were globally found in the interaction between gender and type of motor practice, ($p < 0.001$), the same way that it had happened in each of the factors, gender and type of practice, separately (Table 3). In particular, in games, men obtained an average of emotional intensity significantly higher ($M = 2.21$) than women ($M = 1.74$, $SD = 0.12$, $p = < 0.001$). In motor expression and introjection practices there were no significant differences according to gender (Figure 2).

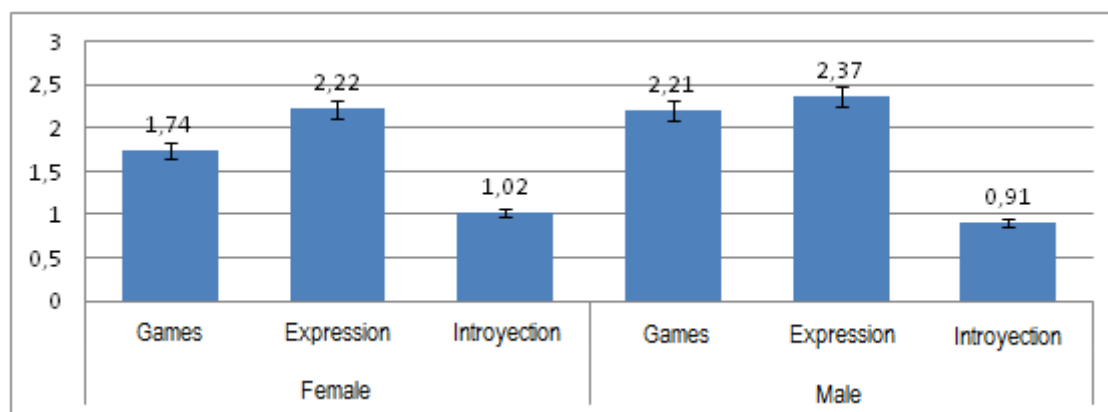


Figure 2. Gender-type of practice

Type of emotions and type of motor practices. The interaction between type of practice and type of emotion was globally significant ($p < 0.001$; Table 3). In Figure 3 in which the means and standard deviations are shown, we see that the values of the motor expression were significantly higher ($p = < .001$) than those obtained by games and introjection practices in both positive ($M = 4.17$; $SD = 0.15 > M = 3.2$, $SD = 0.15 > M = 2.26$, $SD = 0.17$) and negative emotions ($M = 0.8$, $SD = 0.98 > M = 0.64$, $SD = 0.06 > M = 0.23$, $SD = 0.08$); the same behavior was observed in the study of the variable type of practice independently. In contrast, in the ambiguous emotions, games produced the same high values ($M = 2.09$, $SD = 0.14$) as motor expression ($M = 1.91$, $SD = 0.13$; $p = 0.357$); however motor Introjection situations continued obtaining significantly lower values of emotional intensity compared to those obtained by expression and games ($M = 0.4$, $SD = 0.08$; $p < 0.001$).

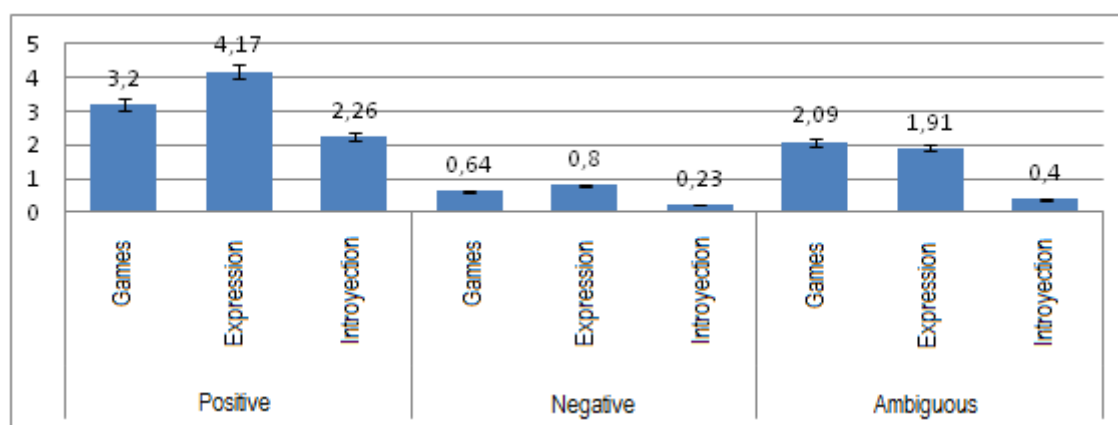


Figure 3. Types of emotions and type of motor practices

DISCUSSION

This research examined the differences in emotional intensity expressed by men and women in three types of emotions, based on three types of motor practices with psychomotor character (motorgames, motor expression and motor introjection).

Motor practices. Motor expression, motor games and motor introjection practices, despite the fact that all of them came from the psychomotor domain,

they all behaved as different subdomains from an emotional point of view, in the same line as Parlebas (2001); expression values regarding games and introjection, in that order, were significantly higher. Therefore, the three types of practical triggered unequal internal processes. The difference between expression and games was much lower than the one between them and introjection practices, perhaps due to the fact that in the case of games, and partly in the case of expression, attention is focused on the outside world and in introjection practices the main characters are directed towards an inner world of conscious perception and internalization (Lagardera, 2007). The differences observed could also be related to the further codification of both types of practices (Mateu & Coelho, 2011; Romero-Martin, 2001) regarding the introjective. On the other hand, in expression practices the emotion is part of its own idiosyncrasy (Romero-Martin, 2001; Torrents, Mateu et al., 2011); while in introjection practices and games the emotion is a factor to highlight (Hromek & Roffey, 2009), although it would not be the most defining factor. This observation led us to think of emotion as a distinguishing factor that could be the basis of the differences identified between the types of practices. To sum up, openness to the outside (higher or lower demand for internalization in practice), coding and importance of emotion, seem to be three characteristics of the internal logic of motor practices that could influence emotional responses in participants.

Emotions. The emotional intensity with which participants expressed positive emotions was remarkably higher than the expressed by the other two types of emotions: the mean of positive emotions was six times higher than the negative one and doubled the average of those from ambiguous emotions, which made us think that the experience was a fundamentally strong and positive emotional reaction (e.g., Torrents et al, 2011; Sáez de Ocáriz, 2014), probably derived from the differential internal logic of the types of tasks which we referred to earlier, and this meant a significant experience along the lines of the statement made by Lavega, Filella et al. (2013).

Gender-emotions. In our study, men obtained higher values of emotional intensity than women, which initially surprised to contradict some studies and socially held beliefs that identify the female gender with a greater ability get excited (Grossman & Wood, 1993; Otero et al., 2009) However the analysis of the interaction between gender and type of emotion revealed that the highest male scores were derived from high scores in negative and ambiguous emotions, which returned us to our theoretical framework, where Caballero (2004) referred to such key aspects more dominant in women as optimism or Alcalá et al. (2006), who confirmed that a young woman is characterized by the happy and pleased feelings and mentioned that cheerful, happy, pleased and glad items showed higher values in women.

Gender and motor practices. Although the female gender has been socially identified with physical activities of rhythm and expression (Alvariñas et al., 2009), in our study, there were no significant differences between the values of men and women means in this content, which could be related to considerations of Blández et al. considerations (2007), according to which we are witnessing a rapprochement between men and women tastes regarding the

kind of sports due to the approaching of women to traditionally male's sports. Where significant differences do appear is in games in which men scored higher than women, perhaps identifying it with certain aspects of these practices such as strength or risk, values which Alvariñas et al. (2009) related to male stereotypes. Both behaviors would be in line with the studies referred to Alcalá et al. (2006); Caballero (2004) or Simon & Nath (2004), which showed that differences in gender are not significant in general although they are in certain particular aspects.

Types of emotions and types of motor practices. In our study, expression practices were those which caused greater emotional intensity both in positive and negative emotions, followed by games which kept the same pattern as that observed for the variable type of practice independently taken; it showed us some stability in the behavior of this variable and confirmed the strength of expression practices which were able to generate high scores in positive but also in negative emotions; these facts would be in line with the specific literature that insisted on the fact that emotion takes part in the very foundations of this activity (Torrents, Mateu et al., 2011) but, unlike other types of practices, as we have outlined, it acts as a defining element of its idiosyncrasy.

CONCLUSION

The results confirm the great contribution of the motor practices studied, games, motor expression and motor introjection to promote positive emotional experiences; ie, experiences of emotional well-being, highlighting expression practices and games which were the ones which triggered the most intense positive emotions.

Although all tasks used in our study with university students of physical activity had psychomotor character, we found that motor expression practices, motor games and introjection practices behaved as different subdomains from an emotional point of view. It is confirmed that the variable type of activity is a key factor in order to predict the significance of the emotional experience lived by the students.

From a gender perspective, there is a need to further deepen in this variable in order to interpret the effects of such practices in both genders. Overall differences in emotional states of men and women are identified, although there are idiosyncrasies; men recorded more intense values than women in games and also in negative and ambiguous emotions.

The findings of this research provide relevant information for professionals in the field of physical activity. The study helps to provide scientific evidence regarding the effects of games, expression and introjection motor practices on emotional states of students. This is especially relevant in this case because these contents suffer from insufficient research.

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